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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/839,458

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Paul F. Struhsaker

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EXAMINER

HABTE, ZEWDU

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,458

Applicant(s) 

STRUHSAKER ET AL.

Examiner

Zewdu Habte

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/16/01</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-7 and 9-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6891810 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because

as to claims 1 and 9, '810 discloses in claim 1 that a fixed wireless access network [line 1] comprising a plurality of base stations [line 2] capable of bidirectional time division duplex (TDD) communication with wireless access devices [lines 2-3] disposed at a plurality of subscriber premises [lines 3-4], a radio frequency (RF) modem shelf [lines 4-5] comprising:

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a first RF modem capable of communicating with a plurality of said wireless access devices using TDD frames, each TDD frame having an uplink for receiving data and a downlink for transmitting data [lines 6-8]; and

a modulation controller associated with said RF modem shelf capable of determining an optimum modulation configuration for each of said plurality of wireless access devices communicating with said first RF modem [lines 10-13], wherein said modulation controller causes said first RF modem to transmit downlink data (**first downlink data** since it is associated with the first data block in the TDD frame) to a first wireless access device in a first data block having a first optimum modulation configuration [lines 13-16]. Although '810 transmits to the first wireless access device using a second data block having a different second optimum modulation configuration, it would have been obvious to one of ordinary skill in the art to modify '810 teaching for the purpose of transmitting data to a second wireless device using a second data block with a different modulation scheme. The motivation is to access two devices using TDD frame in order to maximize bandwidth efficiency.

As to claims 2 and 10, '810 discloses the RF modem shelf as set forth in claim 1 wherein said modulation controller determines said first and second optimum modulation configurations based on channel conditions associated with channels used to communicate with said first and second wireless access devices [claim 2, lines 1-5].

As to claims 3 and 11, '810 discloses the RF modem shelf as set forth in claim 2 wherein said first modulation configuration comprises a first modulation format and said

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second modulation configuration comprises a different second modulation format [claim 3, lines 1-4].

As to claims 4 and 12, '810 discloses the RF modem shelf as set forth in claim 3 wherein said second modulation format is more complex than said first modulation format if channel conditions (quality of service) associated with a first channel used to communicate with said first wireless access device (the first service type) are noisier than channel conditions associated with a second channel used to communicate with said second wireless access device (the second service type) [claim 4, lines 1-4].

As to claims 5 and 13, '810 discloses the RF modem shelf as set forth in claim 4 wherein said first and second modulation formats comprise one of binary phase shift keying (BPSK), quadrature phase shift keying (QPSK), and 16-quadrature amplitude modulation (QAM) [claim 5, lines 1-4].

As to claims 6 and 14, '810 discloses the RF modem shelf as set forth in claim 3 wherein said first modulation configuration comprises a first forward error correction code level and said second modulation configuration comprises a different second forward error correction code level [claim 6, lines 1-4].

As to claims 7 and 15, '810 discloses the RF modem shelf as set forth in claim 6 wherein the first error correction code level is more complex than the second error correction code level if channel conditions (quality of service) associated with a first channel used to communicate with the first wireless access device (the first service type) are noisier (**which requires lower bit error rate**) than channel conditions

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associated with a second channel used to communicate with the second wireless access device (the second service type) [claim 7, lines 1-4].

3. Claims 8 and 16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6891810 B2 in view of Hottinen et al. (US 6584302 B1).

As to claims 8 and 16, '810 discloses the first and second optimum modulation configurations [lines 2-3], but '810 does not specifically disclose different beam forming technique, but Hottinen discloses that the base station calculates beam forming coefficients for each receiver (antenna element) on the basis of received signal [col. 2, lines 26-30], which means the base station adds the beam forming coefficient on the basis of how far each wireless device is by calculating the received interference power. Since the signal for the first wireless device that is modulated using the first modulation configuration scheme gets different beam forming coefficients than the second wireless device, it would have been obvious to one of ordinary skill in the art to combine '810 optimum modulation configurations schemes for a plurality wireless devices using TDD communication with Hottinen beam forming technique for the purpose of controlling transmitted power from base station to wireless devices in a network. The motivation is by adding coefficients to minimize inter-beam spatial interference between receivers.

Response to Arguments

4. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

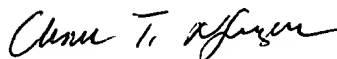
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zewdu Habte whose telephone number is 571-272-3115. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zewdu Habte (Zed)
Examiner
Art Unit 2661

ZH
May 25, 2005



**CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**